



N-methyl-N'-nitro-N-nitrosoguanidine (MNNG)

The very first product offered by Aldrich was *N*-methyl-*N'*-nitro-*N*-nitrosoguanidine (MNNG), sold solely as a precursor for diazomethane. Beyond a doubt, it is the most convenient precursor: stable, beautifully crystalline, generating diazomethane with aqueous alkali.¹ However, it has serious drawbacks. It is the most powerful mutagenic agent² known and some people exposed to it develop a skin sensitivity. Also, the crude MNNG as obtained from the aqueous nitrosation is pyrophoric. The recrystallized product is not, and furthermore, it is so nicely crystalline that it can be weighed easily without contact with the skin.

For larger scale production of diazomethane, our Diazald® has advantages over MNNG. It is not a skin irritant and it costs much less. However, Diazald® has two disadvantages: (i) a shelf-life of only one to two years, and (ii) the generation of diazomethane requires alcoholic alkali, aqueous alkali being ineffective. Thus, many scientists, particularly biochemists, who require only small quantities of diazomethane have continued to use our MNNG.

The standard preparation of diazomethane involves adding MNNG to a cold 50% aqueous potassium hydroxide solution covered with ether, and then codistilling the diazomethane with the ether. Diazomethane has been reported to be explosive, particularly on contact with ground glass joints, and so generations of chemists have watched this codistillation with trepidation. We now offer two sets of apparatus which allow safe, more convenient generation of diazomethane either with or without distillation.

The first of these enables the preparation of diazomethane from

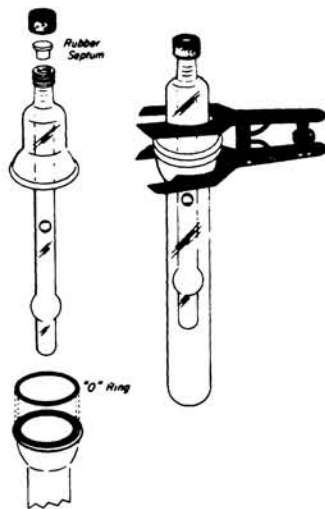


Figure 1. Apparatus for preparing diazomethane •
Z10,100-1 and Z10,102-8

* Reprinted with permission from *Anal. Chem.*, 45, 2302 (1973). Copyright by the American Chemical Society.

MNNG without distillation.³ Thus, MNNG is placed in the inner chamber and cold ether is introduced into the outer chamber of the apparatus (fig. 1, millimole or micromole size), 5*N* sodium hydroxide is then injected through the silicon septum onto the MNNG and diazomethane collects in the ether, ready for use. Higher diazoalkanes can be prepared from our other *N*-alkyl-*N'*-nitro-*N*-nitrosoguanidines (ethyl, propyl, butyl, are available) as can their deuterated and tritiated analogs.^{4,5} Our Diazald® Kit for the generation of diazomethane from Diazald® features smooth Clear-Seal® joints which avoid the hazards associated with ground glass joints. Deuterated diazomethane is easily prepared using our Deutero Diazald® Prep Set which contains instructions and chemicals necessary for generating 50 mmoles of deuterated diazomethane.

12,994-1	<i>N</i> -Methyl- <i>N'</i> -nitro- <i>N</i> -nitrosoguanidine
	10g \$10.00; 14.7g† \$15.50; 25g \$22.00
E4160-5	<i>N</i> -Ethyl- <i>N'</i> -nitro- <i>N</i> -nitrosoguanidine
	10g \$8.50; 50g \$28.20
14,319-7	<i>N'</i> -Nitro- <i>N</i> -nitroso- <i>N</i> -propylguanidine
	5g \$8.70; 17.5g† \$20.95; 25g \$29.00
14,223-9	<i>N</i> -Butyl- <i>N'</i> -nitro- <i>N</i> -nitrosoguanidine
	5g \$9.50; 25g \$31.65
D2800-0	Diazald®
	21.4g† \$2.40; 100g \$6.00; 1kg \$45.00; 10kg \$350.00
Z10,100-1	MNNG-Diazomethane Kit, millimole size \$17.00
Z10,102-8	MNNG-Diazomethane Kit, micromole size \$16.00
Z10,025-0	Diazald® Kit \$74.00
16,484-4	Deutero Diazald® Prep Set \$50.00

† Denotes molar unit

References

- 1) A.F. McKay, *J. Amer. Chem. Soc.*, **70**, 1974 (1948).
- 2) J.D. Mandell and J. Greenberg, *Biochem. Biophys. Res. Commun.*, **3**, 575 (1960); E.A. Adelberg, M. Mandel and G.C.C. Chen, *ibid.*, **18**, 788 (1965).
- 3) H.M. Fales, T.M. Janouni and J.F. Babashak, *Anal. Chem.*, **45**, 2302 (1973).
- 4) W.B. Denmore, N.D. Pritchard and N. Davidson, *J. Amer. Chem. Soc.*, **81**, 5874 (1959).
- 5) J.R. Campbell, *Chem. and Ind.*, 540 (1972).



Aldrich Chemical Company, Inc.

Home Office:
Aldrich Chemical Co., Inc.
940 W. St. Paul Ave.
Milwaukee, Wisconsin 53233

In Great Britain:
Ralph N. Emanuel Ltd.
264 Water Rd., Wembley, Middx.
HAO 1PY, England

In Continental Europe:
Aldrich-Europe
B-2340 Beerse
Belgium

In Germany:
EGA-Chemie KG
7924 Steinheim am Albuch
Germany

Specialist Periodical Reports

The highly praised series of Chemical Society publications which provide systematic and comprehensive review coverage of the major areas of research in chemistry

Nuclear Magnetic Resonance Vol. 3

Senior Reporter: Dr. R. K. HARRIS, *University of East Anglia*

The third volume in this now established series covers the period June 1972 to May 1973. It is very similar in format and coverage to Volume 2 about which K. G. Orrell in *Chemistry in Britain* said, "the high standard, both in terms of comprehensiveness of the literature coverage and the succinctly critical assessment of the various papers, has been well maintained".

Clothbound 454pp 8½" × 5½" ISBN 0 85186 272 1

The chapter headings are as follows: Nuclear Shielding; Nuclear Spin-Spin Coupling; Nuclear Spin Relaxation; Experimental Techniques; Spectral Analysis; Bandshape Phenomena for Fluids; Fourier Transform N.M.R.; Macromolecules; The Solid State; Medium Effects; Oriented Molecules; Chemically Induced Dynamic Nuclear Polarization.

Price £14.00 (Chemical Society Members £10.50)

Molecular Spectroscopy Vol. 2

Senior Reporters: Dr. R. F. BARROW, *University of Oxford*; Prof. D. A. LONG, *University of Bradford*; Prof. D. J. MILLEN, *University College, London*

The second volume in this annual series covers the literature published during 1972 and early 1973. The policy has again been to cover selected areas of the subject whose review is particularly timely and interesting. Reviewing Volume 1 in *Chemistry and Industry*, N. Sheppard said, "the Senior Reporters are to be congratulated on a very successful first volume of the series. The 'mix' of types of subject-matter seemed to be just about right. The reviewer also learnt of much interesting work which would not

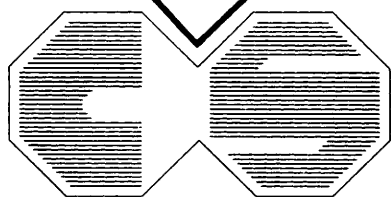
Clothbound 591pp 8½" × 5½" ISBN 0 85186 516 X

have been found by browsing through a selection list of journals in any reasonable amount of time".

The chapter headings are as follows: Microwave Spectroscopy; Theories of Resonance Raman Scattering; Infrared and Raman Studies of Molecular Motion; Infrared Fluorescence Studies; Infrared Intensities; Raman Intensities; Diatomic Predissociation Linewidths; Rotational Structure in the Rydberg Series of Diatomic Molecules; Molecular Spectra in Stars.

Price £18.00 (Chemical Society Members £13.50)

The Chemical Society



These publications may be obtained through your local bookseller or by sending the appropriate remittance direct to: The Publications Sales Officer, The Chemical Society, Blackhorse Road, Letchworth, Herts SG6 1HN, England. (CS Members must write direct to the above address stating that they are claiming the privilege price).

Specialist Periodical Reports

The highly praised series of Chemical Society publications which provide systematic and comprehensive review coverage of the major areas of research in chemistry

Photochemistry Vol. 5

Senior Reporter : Professor D. BRYCE-SMITH, *University of Reading*

The fifth volume of what is now the only annual review of photochemistry covers the literature on physical, inorganic, and organic and polymer photochemistry published between July 1972 and July 1973. The format is very similar to that adopted for previous volumes about which David S. Weiss in the *Journal of the American Chemical Society* said, "There is much to recommend and little to criticize."

Very few papers seem to have escaped the attention of the reporters. The writing is uniformly good and the presentations clear. The series has become an established publication and anyone with a research interest in photochemistry, or a desire to remain abreast of developments in this rapidly expanding field, will find these volumes indispensable.

Clothbound 740pp 8½" x 5½" ISBN 0 85186 045 1 Price £20.00 (Chemical Society Members £15.00)

Saturated Heterocyclic Chemistry Vol. 2

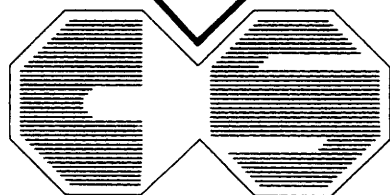
Senior Reporter : Professor W. PARKER, *University of Stirling*

The coverage of the 1970 and 1971 literature on this subject was contained in the umbrella title, *Aliphatic, Alicyclic, and Saturated Heterocyclic Chemistry Vol. 1*. That report received a very favourable response and it has therefore been possible to make each of these areas the subject of an individual series. This volume covers literature published during

1972 and the chapter headings are as follows: Three-membered Rings; Four-membered Rings; Five- and Six-membered Rings and Related Fused Systems; Medium-sized Rings; Bridged Systems. *Aliphatic Chemistry Vol. 2* is already available and *Alicyclic Chemistry Vol. 2* will be published in August.

Clothbound 410pp 8½" x 5½" ISBN 0 85186 532 1 Price £13.50 (Chemical Society Members £10.00)

The Chemical Society



These publications may be obtained through your local bookseller or by sending the appropriate remittance direct to: The Publications Sales Officer, The Chemical Society, Blackhorse Road, Letchworth, Herts SG6 1HN, England. (CS Members must write direct to the above address stating that they are claiming the privilege price).

CLASSIFIED ADVERTISEMENTS

Colaiste na hOllscoile
Corcaigh

UNIVERSITY COLLEGE
CORK, IRELAND

Department of Chemistry—
National Science Council

POSTDOCTORAL
FELLOWSHIP

Applications are invited for a postdoctoral fellowship in collaboration with Dr W. S. Murphy on the synthesis of new estrogen hormones. A background in steroid chemistry or organic synthesis would be an advantage.

The appointment will be for one year in the first instance, commencing on 1 October, 1974.

Salary within scale of £2100—£2465 depending on experience. There is provision for attendance at conferences. Demonstrating is optional (£300 extra p.a.).

Applications with a full curriculum vitae and the names of two referees should be sent to the Personnel Officer, U.C.C., so as to reach him not later than 5 p.m. on Friday 16 August, 1974.

UNIVERSITY OF
LEICESTER

DEPARTMENT OF
CHEMISTRY

POSTDOCTORAL RESEARCH
FELLOWSHIP IN ORGANIC
CHEMISTRY

Applications are invited for a Postdoctoral Fellowship (S.R.C.) to devise synthetic methods using reactive intermediates. The appointment is available for one year (Salary £2118 p.a. + F.S.S.U.) from 1 October, 1974, although a later starting date may be arranged. Applications, together with the names of two referees should be addressed to Dr R. S. Atkinson, Department of Chemistry, The University, Leicester LE1 7RH.

THE POLYTECHNIC OF NORTH LONDON

DEPARTMENT OF CHEMISTRY
SRC

RESEARCH TECHNICIAN

Applications are invited for an SRC research position in each of the following areas:

- (a) Nmr investigations of organothallium compounds. Apply to Dr R. W. Matthews.
- (b) The study of 'template synthesis' and catalysis by transition metal ions. Apply to Dr P. A. Tasker.

The appointments will be made for two years only with salary in the range £1824—£2094. Applicants for either position should be chemistry graduates or have experience in synthetic chemistry and should write as soon as possible, giving details of qualifications and experience, with the names of two referees, to the above at the Department of Chemistry, The Polytechnic of North London, Holloway, London N7 8DB.

THE POLYTECHNIC OF NORTH LONDON

Chemistry Department

POST-DOCTORAL RESEARCH FELLOWS

Applications are invited from suitably qualified research workers for two Research Fellowships, to work on the following projects, which are supported by the Science Research Council.

1. **A Biogenetically-patterned Corrin Synthesis.** Experience in synthetic organic chemistry would be an advantage for this project.
2. **Structural Studies of the Coordination Template Effect of Metal Ions.** Experience of X-ray crystallographic work is desirable for this project.

The appointments will be temporary, initially for two years. The salary scale is £2151 x 90 x £2421 and paid part-time teaching work may be available in addition.

Applicants should reply giving details of qualifications and experience, and the names of two referees to Dr A. P. Johnson (for post 1) or Dr P. G. Owston (for post 2), Chemistry Department, The Polytechnic of North London, Holloway Road, London N7 8DB.

UNIVERSITY OF LONDON
KING'S COLLEGE

POST-DOCTORAL
RESEARCH ASSISTANTSHIP

Applications are invited for a Post-Doctoral Research Assistantship, to work on biosynthetically modelled routes to the synthesis of prostaglandins in collaboration with Dr. D. I. Davies.

The appointment, financed by S.R.C. (Salary: First year £1929 + £213 London Allowance plus F.S.S.U. benefits with appropriate increments in the second year) is for a maximum two years, starting from 1st October 1974 or as soon as possible thereafter.

Applications by letter, giving a curriculum vitae and naming two referees to Dr. I. Davies, (CC), Chemistry Department, King's College, Strand, London WC2R 2LS.

UNIVERSITY OF SALFORD

DEPARTMENT OF CHEMISTRY AND APPLIED CHEMISTRY

POSTDOCTORAL FELLOWSHIP IN PHYSICAL ORGANIC
CHEMISTRY

A postdoctoral research fellowship is available for investigations into factors affecting the stereoselectivity of enamine reactions, in collaboration with Dr P. W. Hickmott, tenable from October, 1974. The investigation will be concerned with the determination of the relative positions of the transition states for the reaction of enamines with a series of electrophilic reagents and the determination of the relevant thermodynamic parameters.

The award is available for one or two years for candidates with the necessary experience in synthesis and spectroscopic methods of structure elucidation.

Salary within the range: £2118 - £2412 p.a. F.S.S.U.

Applications forms may be obtained from the Registrar, University of Salford, Salford M5 4WT to whom they should be returned by 23 August, 1974 quoting reference CH/163.

CLASSIFIED ADVERTISEMENTS

Display and £1.30 per single column
Semidisplay centimetre
 column width 43 mm.
 (10 ems)

Box Numbers 15p. extra.

Replies to Box Numbers, and advertisers' instructions and enquiries should be addressed to:—

Classified Advertisement Department,
Chemical Communications,
The Chemical Society,
Burlington House, Piccadilly,
London W1V 0BN. Tel 01-734 9864
Telex number 268001